

Effectiveness of preservice music teacher education programs: Perceptions of early-career music teachers

Julie Ballantyne and Jan Packer

(j.ballantyne@mcauley.acu.edu.au)

Abstract

The quality of teaching occurring in schools is directly linked to the quality of preservice preparation that teachers receive (Darling-Hammond, 2000). This is particularly important in the area of music teacher education, given the unique challenges that classroom music teachers commonly face. This paper reports research designed to investigate the knowledge and skills that early-career music teachers perceive to be necessary to function effectively in the classroom, and their perceptions of the effectiveness of current teacher education programs in preparing them to teach secondary classroom music. Questionnaires were completed by 76 secondary classroom music teachers in their first three years of teaching in Queensland, Australia. Importance-Performance Analysis was used to determine those areas of the preservice course that constitute a high priority for attention. The findings suggest that preservice teachers need increased support in their development of pedagogical content knowledge and skills, and non-pedagogical professional content knowledge and skills. This research provides an empirical basis for reconceptualising music teacher education courses and raises important issues that music teacher educators need to address in order to ensure that graduates are adequately prepared for classroom music teaching.

Preservice music teacher education programs aim to equip prospective music teachers with the knowledge and skills to teach music in the classroom. As the quality of teaching occurring in schools can be directly attributed to the preservice teacher preparation that teachers receive (Carter, Carre and Bennett, 1993, Committee for the Review of Teaching and Teacher Education, 2003, Darling-Hammond, 2000, Iredale, 1996, Temmerman, 1997), it is clear that the quality of music teacher education is of vital importance to the music education profession.

There is a high incidence of 'burnout' among music teachers (Kelly, 1999, Leong, 1996), which has been linked to the specific challenges faced by music teachers in schools. Some of these challenges include classroom music teachers' extra-curricular

music involvement, the prevalence of private tuition among those students whose parents can afford it, and the isolation of music teachers (Chadwick, 2000, Kelly, 1999, Hodge, Jupp and Taylor cited in Spencer, 1996). These challenges, which are arguably unique to the specific experiences of classroom music teachers (Ballantyne, 2001) present difficulties for early-career music teachers in particular.

If early-career teachers are not adequately prepared for the challenges associated with their work, they are likely to experience what is known as ‘praxis shock’ (Mark, 1998), as a result of the discrepancies between their expectations of school life and the realities of teaching. If teachers’ expectations are ‘shattered’ in this way, they tend to focus on their own survival rather than on learning how to teach more effectively (Wideen, Mayer-Smith and Moon, 1998). Ultimately, this is not the best outcome for the music education profession.

How effective then are music teacher education programs in preparing their students for the realities of the classroom? At an international level, it has been suggested that “substantive information about how best to prepare music teachers” is urgently needed (Asmus, 2000, p. 5). However, a literature search of major academic databases (FirstSearch, AEI, Ovid, ERIC, Proquest, EBSCOhost, MENC, BAMER) indicates that there is little research investigating the impact of preservice music teacher education on teachers’ preparedness to teach music effectively.

Early-career music teachers (those in their first four years of teaching after graduation from a preservice program) are well-placed to contribute important information needed by teacher educators. They might be considered the ‘clients’ or ‘major

stakeholders' (Posavac and Carey, 1992) of teacher education programs and as such, are able to provide a unique insight into their quality and effectiveness. Yourn (2000) suggests that the needs of early-career music teachers should be considered in the reconceptualisation of teacher education programs. Such an approach would help to ensure that programs become more learner centred (considering the capacities, interests and motivations of students), future focussed (considering the challenges and conditions students face following the completion of their formal education) and research based (considering the best knowledge and insights available about learners and the design and implementation of empowering learning experiences) (Spady, 2002).

Accordingly, this research investigates the knowledge, skills and capabilities that early-career secondary music teachers perceive to be necessary to function effectively in the classroom, and their perceptions of the effectiveness of current teacher education programs in preparing them to teach secondary classroom music. This study has relevance beyond the context in which it was undertaken by providing a conceptual framework for understanding, evaluating and improving various aspects of preservice music teacher preparation.

Context for the research

This study was undertaken in Queensland, Australia, with early-career music teachers who had graduated from one of three preservice education programs¹. All accredited teacher education programs in Queensland have to comply with the Queensland Board of Teacher Registration's (1999) guidelines. This document details course requirements in terms of philosophies, goals, structure and content of programs, the teaching and learning approaches of the program and assessment of student work. As a result, preservice teacher education programs at all Queensland universities are quite similar.

Music teachers in Queensland are required to attend university in a full-time capacity for at least four years. These four years usually comprise two years of content studies and two years of general education studies. Graduate students, who have completed a previous degree in music or can demonstrate skills equivalent to significant tertiary musical studies, may complete only the final two years of education studies (Queensland Board of Teacher Registration, 1999, p. 7).

Method

As part of a larger study, a questionnaire was designed to explore the perceptions of early-career secondary music teachers regarding the knowledge and skills they require to function effectively in the classroom and the effectiveness of their preservice teacher education program in developing these.

Design of the questionnaire

¹ 'Preservice program' may also be referred to as a 'course'.

This paper reports findings from a subset of four questions within this instrument, focusing specifically on participants' quantitative ratings of:

- a) whether teachers believe that their preservice preparation was relevant to their needs as a beginning teacher (measured on a four-point scale from “definitely not” to “yes absolutely”);
- b) their overall satisfaction with their preservice preparation (measured on a four-point scale from “very dissatisfied” to “very satisfied”);
- c) the importance of 24 items relating to music teachers' knowledge and skills (measured on a five-point scale from “not important” to “extremely important” with the midpoint “important”); and
- d) the performance of their teacher education program in addressing these 24 items (measured on a five-point scale from “very poor” to “excellent” with the midpoint “adequate”).

The items in c) and d) above represent the major aspects of knowledge and skills that general education and music education theorists consider desirable for successful secondary classroom teachers. They are based on Shulman's (1987) categories of the knowledge base of teachers and Leong's (1996) categories of the specific competencies required of classroom music teachers and are supplemented by four additional items identified as important by early-career music teachers in a pilot study (Ballantyne, 2003). The many similarities between Shulman's (1987) and Leong's (1996) categories enabled the 24 items to be divided into four categories, which loosely reflect the design the preservice program (incorporating music studies, music curriculum studies, general education studies and practicum). The four categories and their corresponding items were:

- **Music knowledge and skills** (performance skills, musical creativity, conducting skills, aural perception skills, composition skills and music history knowledge)
- **Pedagogical content knowledge and skills** (knowledge of music teaching techniques, engaging students with music in a meaningful way, implementing the music curriculum effectively, assessing students' abilities in the various aspects of music, explaining and demonstrating musical concepts)
- **General pedagogical knowledge and skills** (knowledge of learners and their characteristics, knowledge of education purposes and values, ability to cater for student needs, ability to plan for effective learning, ability to organise the learning environment, ability to utilise various instructional strategies)
- **Non-pedagogical professional knowledge and skills** (organisation of extra-curricular music activities, legal issues, managing the music budget, coordination of staff, communication with community, communication with colleagues, communication with students and parents).

Factor analysis (principal axis factoring with varimax rotation) confirmed that these 24 items could be reduced to four factors (music knowledge and skills, non-pedagogical professional knowledge and skills, general education knowledge and skills and pedagogical content knowledge and skills). The only exception is item 2 – musical creativity - which did not load on any of the four factors but formed a fifth factor. No other items loaded highly on this fifth factor. This may reflect the view that musical creativity is a personal quality rather than an item of knowledge or skills. In the following discussion, musical creativity will thus be considered separately from the four major categories outlined above.

Participants and procedure

By far the largest providers of secondary music teacher education in Queensland are the Queensland University of Technology (QUT), the University of Queensland (UQ) and Griffith University (GU). These universities provided lists of people who were qualified to teach secondary classroom music and had graduated in the years 1998-mid 2002. It is estimated that this list includes more than 90% of the early-career music teachers currently teaching in Queensland. The questionnaire was then distributed to these 136 early-career secondary classroom music teachers who undertook their preservice education in Queensland (17% from GU, 44% from QUT, 39% from UQ, 75% female). The participants' mailing details were then gathered from a public database held at the Board of Teacher Registration. Distribution of the questionnaire involved contacting participants by mail or telephone up to five times (to increase response rate), as recommended by Dillman (2000). Completed responses were returned by 76 people (response rate of 56%). Respondents had similar demographics to the total target group of 136 (17% from GU, 40% from QUT, 40% from UQ, 78% female). Most respondents (59%) were aged 25-29, and 32% were aged 20-24.

Analysis

A technique known as Importance-Performance Analysis (IPA) was applied to participants' ratings of the various knowledge and skills required to be an effective classroom music teacher, and the performance of their teacher education program in addressing these knowledge and skills. This analysis was developed by Martilla and James (1977) to measure attribute importance and performance in marketing

programs. It has subsequently been advocated as “an easy, flexible and action-oriented method that can be adapted for higher education [curriculum] assessment” (Nale, et al., 2000, p. 144). In IPA, the mean scores from the importance and performance ratings are plotted on a grid, producing four quadrants which separate items into areas of greatest to least concern.

Results and Discussion

In general, early-career music teachers’ ratings regarding the relevance of coursework to their needs, and their overall satisfaction with their preservice preparation were relatively low. The majority of respondents (55%) reported being “somewhat satisfied” with their preservice preparation (3 on a 4 point scale). Only 16% were “very satisfied” and 29% reported being either “somewhat dissatisfied” or “very dissatisfied”. This finding indicates that satisfaction levels among these early-career music teachers leave considerable room for improvement. Similarly, the majority of respondents (52%) reported that their preservice program was “mostly” relevant to their needs as early-career music teachers (3 on a 4 point scale). Only 12% considered it to be “definitely” relevant and 36% found the course to be “not really” relevant, again indicating a need for improvement. The reported levels of dissatisfaction thus reinforce the need for research into early-career music teachers’ perceptions of the effectiveness of their preservice education.

Descriptive statistics for participants’ ratings of importance and performance in relation to the 24 items of music teacher knowledge and skills are reported in Table 1. Overall, participants considered all of the 24 items of music teacher knowledge and

skills derived from the literature to be at least moderately important (all means ≥ 3.3 on the five-point scale, see Table I). Seven items were perceived by the majority of early-career music teachers to be extremely important (median rating of 5; means ranging from 4.3 – 4.5) and fifteen as very important (median rating of 4; means ranging from 3.6 – 4.3). Only two items – legal issues and coordination of staff - received a median score of 3 (important; means ranging from 3.3 – 3.4) and no items were viewed as less than important. There were no significant differences due to age or gender.

Despite this overwhelming support for the *importance* of the 24 listed items, the *performance* of preservice education programs in addressing them was mostly perceived to be barely adequate (means ≤ 3.5 , see Table I). There was only one item – music history knowledge – that the majority of teachers considered to have been addressed with more than adequate effectiveness (median rating of 4; mean of 3.5). Fifteen items were perceived by the majority of teachers as adequately addressed (median rating of 3; means ranging from 2.7 – 3.5); six as less than adequate (median rating of 2; means ranging from 1.8 – 2.6), and two as very poor (median rating of 1; means of 1.5). Again, there were no significant differences due to age or gender.

Importance-Performance Analysis provides a way of combining these two dimensions graphically. Martilla and James (1977, p. 79) indicate that the positioning of axes in such analyses is considered a matter of judgement. In this case, as illustrated in Figure 1, the horizontal axis has been positioned in such a way that items are divided into two equally sized groups - those with relatively higher importance (mean ≥ 4.2) and those with relatively lower importance (mean < 4.2). Because of the generally

low performance ratings, the vertical axis was positioned in such a way that the items were divided into unequal groups – one third being classified as having been performed relatively effectively (means > 3.2) and two-thirds being classified as having been performed relatively poorly (means ≤ 3.2).

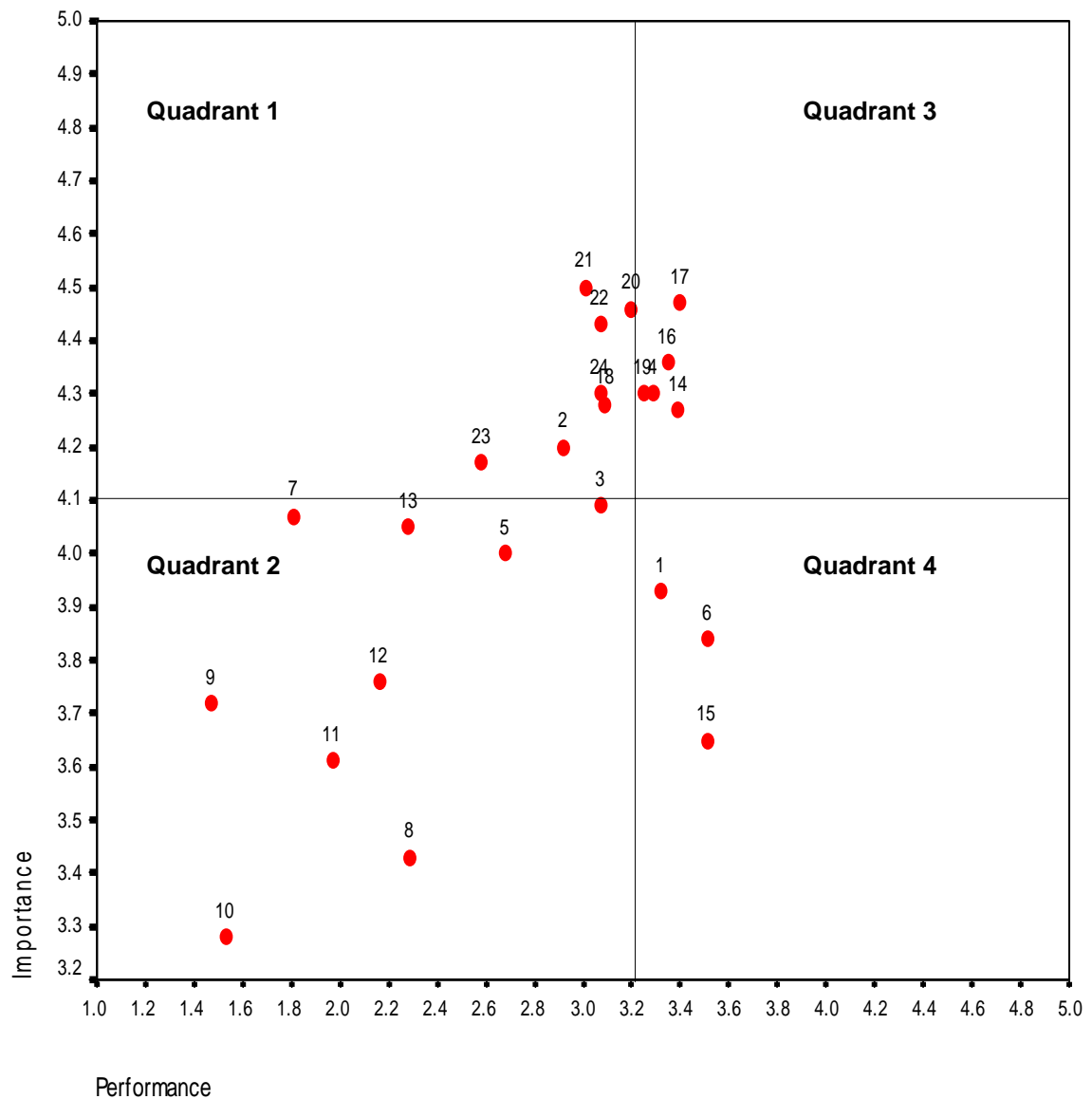
Table I Participants' ratings of Importance and Performance

Category	Item	Item description	Importance			Performance		
			Mean	Median	% 4-5 ^a	Mean	Median	% 1-2 ^b
Music knowledge and skills	1	Performance skills	3.9	4	66	3.3	3	21
	2	Musical creativity	4.2	4	83	2.9	3	35
	3	Conducting skills	4.1	4	79	3.1	3	36
	4	Aural perception skills	4.3	4	84	3.3	3	24
	5	Composition skills	4.0	4	70	2.7	3	40
	6	Music history knowledge	3.8	4	67	3.5	4	21
Non-pedagogical professional knowledge and skills	7	Coordination of extra curricular music activities	4.1	4	73	1.8	2	80
	8	Legal issues	3.4	3	46	2.3	2	54
	9	Managing the music budget	3.7	4	58	1.5	1	95
	10	Coordination of staff	3.3	3	45	1.5	1	92
	11	Communication with community	3.6	4	59	2.0	2	71
	12	Communication with colleagues	3.8	4	68	2.2	2	63
	13	Communication with students and parents	4.1	4	79	2.3	2	57
General pedagogical knowledge and skills	14	Knowledge of learners and their characteristics	4.3	5	83	3.4	3	14
	15	Knowledge of education purposes and values	3.7	4	59	3.5	3	9
	16	Ability to cater for student needs	4.4	5	88	3.4	3	16
	17	Ability to plan for effective learning	4.5	5	88	3.4	3	19
	18	Ability to organise the learning environment	4.3	5	80	3.1	3	28
	19	Ability to utilise various instructional strategies	4.3	4	90	3.3	3	22
Pedagogical content knowledge and skills	20	Knowledge of music teaching techniques	4.5	5	93	3.2	3	25
	21	Engaging students with music in a meaningful way	4.5	5	88	3.0	3	37
	22	Implementing the music curriculum effectively	4.4	5	86	3.1	3	32
	23	Assessing students' abilities in the various aspects of music	4.2	4	80	2.6	2	53
	24	Explaining and demonstrating musical concepts	4.3	4	84	3.1	3	32

a %4-5 = percentage of respondents rating item as very important or extremely important

b %1-2 = percentage of respondents rating item as very poor or less than adequate

Figure 1 Importance-Performance Analysis of music teacher education programs in Queensland



- Items 1, 3-6 = Music knowledge and skills
- Items 7-13 = Non-pedagogical professional knowledge and skills
- Items 14-19 = General pedagogical knowledge and skills
- Items 20-24 = Pedagogical content knowledge and skills
- Item 2 = Musical creativity

The results of the IPA will be discussed in terms of the four quadrants into which items fall. According to IPA theory (Martilla and James, 1977, Nale, et al., 2000, Rauch and Nale, 1995), items within Quadrant One (high importance, low performance) are those on which attention most needs to be concentrated. Items in Quadrant Two (low importance, low performance) are commonly considered to be of low priority, however, in the present analysis they are considered a significant source of concern for early-career teachers because even in this quadrant importance ratings were relatively high. Items in Quadrant Three (high importance; high performance) are those which are already being adequately addressed and for which current efforts need to be maintained. Finally, items in Quadrant 4 (low importance; high performance) may signal areas of possible ‘overkill’ where efforts could afford to be cut back.

Quadrant One – High priority for attention

Prominent within this quadrant, and thus the cause for greatest concern, were the five items from the category **pedagogical content knowledge and skills**. These items deal with knowledge and skills specific to the teaching of music within the classroom. Within this category, the importance of knowledge of music teaching techniques (item 20) and engaging students with music in a meaningful way (item 21) were rated very highly. All items in this category were rated as very important or extremely important by over 80% of teachers, and as poorly performed by over 25% of teachers.

Participants’ low ratings of the effectiveness with which **pedagogical content knowledge and skills** were addressed in their preservice programs may reflect the current design of Queensland teacher education programs. Teacher education courses

are designed to comply with professional standards documents (in this case the *Professional standards for teachers: Guidelines for professional practice*), which document the generic skills and capabilities that all graduates of teacher training programs are expected to have (Education Queensland, 2002). This is part of the growing international movement towards the professionalisation of teacher education (Cochran-Smith and Fries, 2001). These standards are neither discipline nor age-level specific, and terms such as ‘content area and trans-disciplinary knowledge’ are included in only a minor way. It is possible, therefore, that these standards neglect crucial elements relating to specific discipline differences. Although it is acknowledged that teachers’ work is multi-faceted (Shulman, 1987), teachers do tend to view themselves as age level or discipline specialists (Martinez, 1994, Ramsey, 2000). It has been suggested that as human learning and teaching is highly specific and situated, transfer and generalisability from one domain to another may be limited (Shulman and Sparks, 1992). Ramsey argues that “the preparation of teachers for their content areas” should be a key policy direction (2000, p. 39). This highlights the importance of framing teacher education reforms within the context of discipline areas.

It is also of interest to note that Spearman’s Rank Order Correlation showed that the perceived performance of **pedagogical content knowledge and skills** within the preservice course was positively correlated with early-career music teachers’ overall satisfaction with the course ($\rho=.347$, $n=74$, $p=.002$). This arguably demonstrates the importance of **pedagogical content knowledge and skills** to early-career music teachers. Further research into this relationship could be helpful when reconceptualising preservice programs.

Two other items placed in the first quadrant were the ability to organise the learning environment (item 18), and musical creativity (item 2). These were seen to be very important to early-career music teachers, yet were not being addressed adequately by the preservice programs. The ability to organise the learning environment has been categorised as a **general pedagogical skill**. It is possible, however, that teachers were viewing this item in the context of the particular needs of the music classroom in relation to the organisation of the learning environment, eg., the need to deal with noise. The findings suggest that this is an aspect that may need special attention in music teacher education.

Also found within this quadrant is the category of **musical creativity**. As many people conceive of musical creativity as being somewhat innate, it is also difficult to address within the preservice program. Further research needs to be conducted to determine how best to respond to teachers' desire for musical creativity to be addressed more effectively in the preservice course.

Quadrant Two – Lower but significant priority

By far the most notable category within quadrant two is **non-pedagogical professional knowledge and skills**, which incorporates the professional aspects of teaching secondary classroom music and also includes involvement in the extra-curricular music program. All items in this category were viewed as very important or extremely important by 45-80% of teachers, but this category was viewed as the least effectively addressed by preservice programs, with over 54% of teachers seeing all items as less than adequately addressed.

Communication is of particular concern for early-career music teachers – communication with students and parents (item 13), communication with colleagues (item 12), and communication with the community (item 11). All three of these items were rated quite highly on the importance scale, and very low on the performance scale. Of the three, the most important was communication with students and parents.

Thiessen and Barrett (2002) note that music education is not limited to those aspects associated with the classroom. Specifically, the coordination of extra-curricular music activities is a skill that is uniquely required of secondary classroom music teachers (Chadwick, 2000, Kelly, 1999, Lierse, 1998). It has also been linked strongly with the high incidence of early ‘burnout’ in Australian music teachers (Kelly, 1999). The coordination of extra-curricular music activities (item 7) was seen to be very important or extremely important by the majority of early-career music teachers, yet most felt that their preparation for dealing with this was less than adequate. Budgeting skills (item 9) are clearly necessary in order to coordinate a music department, and are closely associated with the coordination of extra-curricular music activities, yet this item was viewed as the one least effectively covered in the preservice program (95% rating it as less than adequate). Coordination of staff (item 10) was also a concern for many respondents, with the vast majority (92%) rating this aspect as less than adequately addressed.

The findings suggest that preservice teacher education programs in Queensland are not adequately addressing **non-pedagogical professional content knowledge and**

skills, and indeed, within the current format, there are no units that specifically address these aspects. Further research is needed to identify the most appropriate ways of preparing early-career teachers in these extra-curricular aspects of music teaching. It does seem, however, that early-career music teachers feel that this area should be addressed in the preservice course.

Also within the second quadrant are two items from the category **music knowledge and skills**. It is assumed that music teachers will have a certain level of **music knowledge and skills** in order to be able to teach music effectively. Placement in this quadrant indicates that participants considered these items to be important but not adequately addressed in their preservice programs. Items of concern for teachers included conducting skills (item 3) and their composition skills (item 5). Both of these are typically covered in the content studies requirements of the preservice program. Placement of these items in quadrant two may reflect a mismatch between **music knowledge and skills** developed in the first two years of study, and the application of these in the classroom. More research is needed to determine whether these items should be addressed more explicitly within the education or music component of teacher education.

Quadrant Three – Maintain performance

Items within this quadrant are those that are currently being addressed most effectively in the preservice programs. The theoretical category of **general pedagogical knowledge and skills** (knowledge and skills associated with teaching, irrespective of subject specialisation) is found predominantly in this quadrant, indicating that it is both very important to students and is being addressed

comparatively well in the preservice program. For example ability to plan for effective learning (item 17), ability to cater for student needs (item 16) and ability to utilise various instructional strategies (item 19) were all rated as important or extremely important by at least 88% of participants. This reflects the current design of the preservice programs, where 14 of the 16 units are dedicated to **general pedagogical knowledge and skills**, which might be explained by the increased popularity of the professionalisation agenda (Nierman, Zeichner and Hobbel, 2002). The placement of these items within quadrant three indicate that although there is clearly room for improvement, **general pedagogical knowledge and skills** does not require as much attention as **pedagogical content knowledge and skills** and **non-pedagogical professional knowledge and skills**.

It is also of interest to note that Spearman's Rank Order Correlation showed that the perceived performance of **general pedagogical content knowledge and skills** within the preservice course was positively correlated with early-career music teachers' overall satisfaction with the course ($\rho=.354$, $n=74$, $p=.002$). It is possible that this correlation again reflects the design of the preservice programs in Queensland, where the majority of time is dedicated to **general pedagogical content knowledge and skills**. Further research into this relationship could be helpful when reconceptualising preservice programs.

One item from the **music knowledge and skills** category - aural perception skills (item 4) - was also found within this quadrant, indicating that it is perceived to be both relatively more important and more adequately addressed than other items in this category. This may be because, in contrast to composition and conducting skills,

aural perception skills are addressed in some of the music curriculum subjects, and not only in the content studies component of the preservice program.

Quadrant Four – Possible areas for cut-back

This quadrant contains those items that are perceived to be less important, yet covered very well in the preservice program. Items in this quadrant are not valued by early-career teachers as highly as those in quadrant three. Two of the three items - performance skills (item 1) and music history knowledge (item 6) - belong to the **music knowledge and skills** category, and would typically be covered in a music or arts degree. The third item - knowledge of education purposes and values (item 15) – belongs to the category of **general pedagogical knowledge and skills**. All of the items in this category were considered by respondents to have been addressed effectively in the programs.

Conclusion

Although preservice teacher education is designed to prepare beginning teachers for the early years of their career, early-career music teachers in Queensland express some dissatisfaction regarding the preservice education they have received. This dissatisfaction appears to be linked to a perceived need for increased support in **pedagogical content knowledge and skills** in particular. **Non-pedagogical professional knowledge and skills** is also an area in need of improvement.

The findings of this research highlight a number of important issues that music teacher educators might consider addressing in order to ensure that graduates are

being adequately prepared for and supported in their important role as classroom music teachers. In particular, early-career music teachers feel that:

- Preservice music teacher education programs should place greater emphasis on developing the specific **pedagogical content knowledge and skills** required for teaching secondary classroom music.
- Greater emphasis in preservice preparation should be placed on specific **professional knowledge and skills** associated with the practical aspects of running a music program, including involvement in extra-curricular programs, legal issues, budgeting, and communication skills.
- **Music knowledge and skills** are very important, but are not always adequately covered in preservice programs. Perhaps these need to be addressed throughout the preservice program, and not only in the music content component of the course.
- **General pedagogical knowledge and skills** are both important and adequately covered in preservice courses. In fact, the present layout of coursework programs appears to concentrate predominantly on this area. Less attention is needed on improving this area of the preservice course.

Although this study was conducted in Queensland, Australia, the conceptual framework and research findings presented here have important implications for music teacher education, beyond the original context of the study. Importance-Performance Analysis has highlighted those areas that constitute a high priority for attention (**pedagogical content knowledge and skills** and **non-pedagogical professional knowledge and skills**). The findings provide an empirical basis for the

planning and development of preservice music teacher education programs based on the needs and experiences of new graduates. Teacher education programs that address these needs will have a greater potential to prevent praxis shock and ‘burnout’ among early-career music teachers.

This paper highlights the need for more in-depth research into the reasons underlying early-career music teachers’ perceptions of importance and performance in relation to their preservice preparation. Relevant research should include such issues as the impact of early-career music teachers’ socialisation experiences and philosophy of teacher education on their perceptions of effectiveness; the link between satisfaction and general **pedagogical content knowledge and skills** and **pedagogical content knowledge and skills**; and the way in which musical creativity should be dealt with in preservice music teacher education programs.

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Biographical details

Julie Ballantyne is music education lecturer at the Australian Catholic University, Brisbane. This paper arose from her PhD studies at the Queensland University of Technology. She has published refereed papers in the fields of music education, music teacher education and teacher education.

Jan Packer is a Lecturer in the Education Faculty at Queensland University of Technology. She has published research in the areas of teacher education, higher education, environmental education, heritage interpretation and free-choice learning.